

Interstate Transport State Implementation Plan for 2010 NO₂ and 2010 SO₂

Draft for Public Comment



**State of Idaho
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Introduction

The interstate transport provision in the Clean Air Act (CAA) section 110(a)(2)(D)(i) (i.e., the “good neighbor” provision) requires each state to submit a state implementation plan (SIP) that prohibits emissions that will have certain adverse air quality effects in other states. This SIP submittal, along with other components of an infrastructure SIP, is due within 3 years of the US Environmental Protection Agency (EPA) promulgating a new or revised National Ambient Air Quality Standard (NAAQS). On January 22, 2010, EPA promulgated a revised NAAQS for nitrogen dioxide (NO₂) and on June 3, 2010, EPA promulgated a revised sulfur dioxide (SO₂) standard. Idaho submitted NO₂ and SO₂ infrastructure SIPs (minus the elements addressed in this submittal) on September 16, 2013. Due to uncertainty surrounding the effect of pending court cases in other states, Idaho did not include an analysis addressing all interstate transport provisions. Idaho’s NO₂ and SO₂ infrastructure SIPs were approved by EPA on September 10, 2014 (79 FR 46707). This SIP submittal addresses Idaho’s remaining infrastructure SIP obligations under section 110(a)(2)(D)(i) for SO₂ and NO₂.

Background

CAA section 110(a)(2)(D)(i) identifies four distinct “prongs” related to the impacts of air pollutants transported across state lines. For a new or revised NAAQS, CAA requires each SIP contain adequate provisions prohibiting any source or other type of emissions activity within the state from emitting air pollutants that result in the following:

1. Contribute significantly to nonattainment of the applicable NAAQS in any other state.
2. Interfere with maintenance of the applicable NAAQS in any other state.
3. Interfere with measures required to be included in the applicable SIP for any other state to prevent significant deterioration of air quality.
4. Interfere with measures required to be included in the applicable SIP for any other state to protect visibility.

This analysis focuses on states that are contiguous to Idaho: Washington, Oregon, Nevada, Utah, Wyoming, and Montana. Since both NO₂ and SO₂ will most likely either disperse in the atmosphere or chemically react to form a secondary pollutant within a few miles of a source, impacts beyond the contiguous states are not considered.

Nitrogen Dioxide

EPA first set NO₂ standards in 1971 for both a primary standard (to protect health) and a secondary standard (to protect the public welfare) at 53 parts per billion (ppb), averaged annually. EPA reviewed the standards in 1985 and 1996, and after each review, decided to retain the standards. In 2005, EPA began another review resulting in the January 22, 2010, rulemaking that established an additional primary NO₂ standard at 100 ppb, averaged over 1 hour (75 FR 6474).

Idaho addressed prongs 3 and 4 in its September 16, 2013, NO₂ infrastructure SIP submittal. Prong 4 (visibility impairment) was addressed in the Idaho Regional Haze SIP, which was approved by EPA on June 9, 2011 (76 FR 33651). This SIP submittal addresses the requirements of CAA section 110(a)(2)(D)(i)(I) for revised 2010 NO₂ NAAQS for the first two prongs listed above.

On January 20, 2012, EPA designated all areas of the country as “unclassifiable/attainment” for the 2010 NO₂ NAAQS (77 FR 9532). The available air quality data show that all monitored areas in the country meet the 2010 NO₂ NAAQS for 2008–2010. No state or tribe recommended an area be designated “nonattainment.” As listed in EPA’s NO₂ Design Values report (<http://www.epa.gov/airtrends/values.html>), only one maintenance area exists for the prior annual NO₂ NAAQS (Los Angeles, California). With no nonattainment or maintenance areas in surrounding states, Idaho does not significantly contribute to nonattainment or maintenance of these NAAQS in any of the contiguous states.

As further evidence that Idaho’s NO₂ emissions do not impact neighboring states, Figure 1 shows the estimated 2009–2011 1-hour NO₂ design value background concentrations for Idaho (http://lar.wsu.edu/nw-airquest/lookup_faq.html). The design values are well below the NAAQS, and areas of increased NO₂ concentrations are localized in nature.

Conclusion—Based on the information, Idaho has met the CAA requirements for prongs 1 and 4.

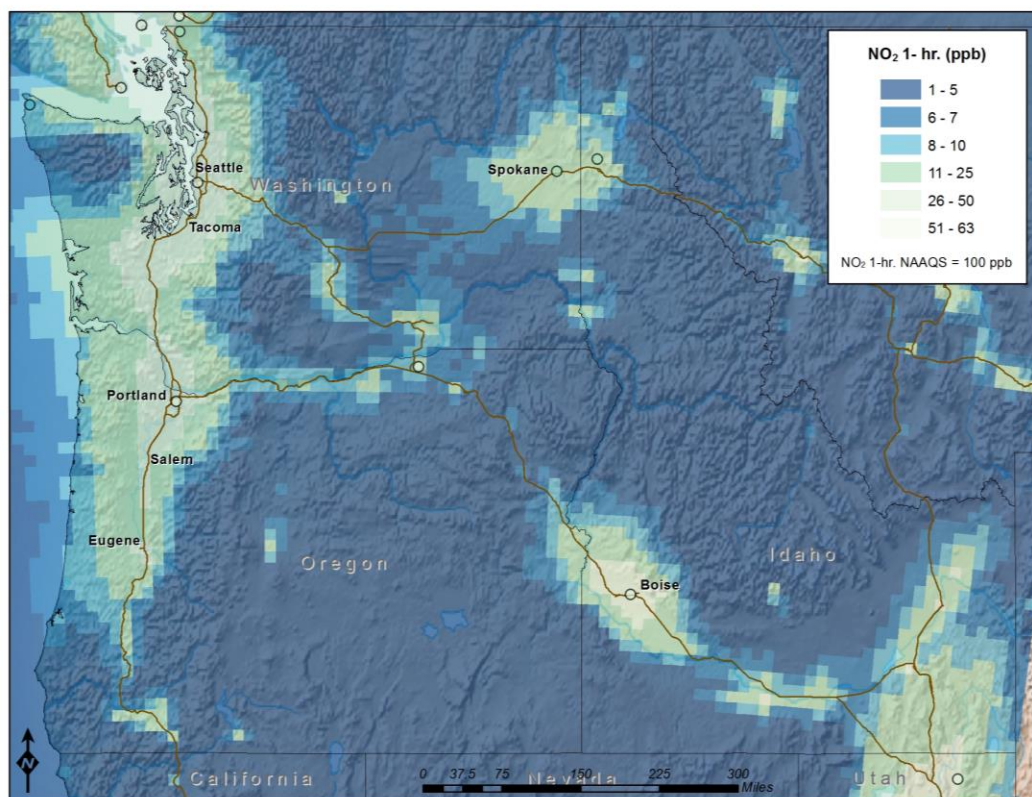


Figure 1. Modeled NO₂ design values, 2009–2011.

Sulfur Dioxide

Primary standards for SO₂ were first set in 1971, at 140 ppb averaged over a 24-hour period, not to be exceeded more than once per year, and 30-ppb annual arithmetic mean. In 1996, EPA subsequently reviewed the primary standards, and after each review, decided to retain the standards. More recently, on June 2, 2010, EPA promulgated a revised primary SO₂ standard at 75 ppb, based on a 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations (75 FR 35520).

For the revised 2010 SO₂ standard, Idaho addressed interstate transport prongs 3 and 4 in its September 16, 2013, SO₂ infrastructure SIP submittal. The Idaho Regional Haze SIP also addressed prong 4, and the SIP was approved by EPA on June 9, 2011 (76 FR 33651). The current SIP submittal addresses prongs 1 and 2 of CAA section 110(a)(2)(D)(i)(I) for the revised 2010 SO₂ NAAQS.

Unlike NO₂, a nonattainment area for the revised SO₂ NAAQS exists in an adjacent state. Billings, Montana, was declared nonattainment for the 1-hour SO₂ standard in 2013 (77 FR 9532). In addition, areas in neighboring states were declared nonattainment for the earlier SO₂ standards (Table 1).

Table 1. Areas previously designated nonattainment for SO₂ annual NAAQS and 24-hour NAAQS.

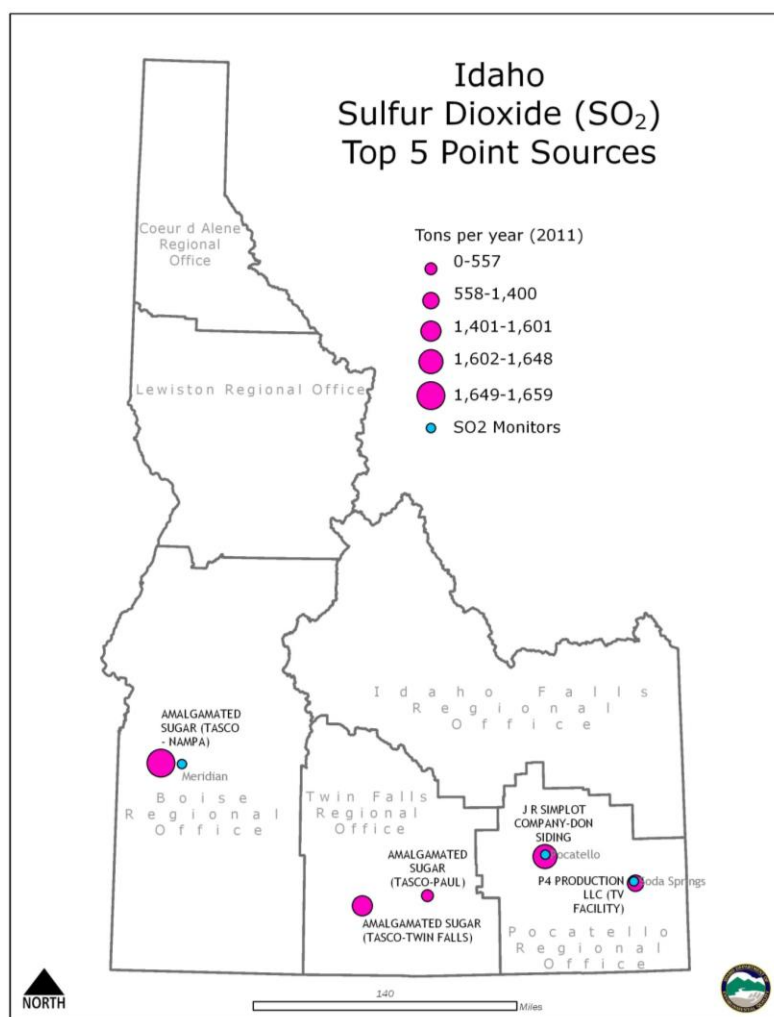
Designated Area	State	Designation Status
East Helena	Montana	Nonattainment
Laurel	Montana	Nonattainment
Central Steptoe Valley	Nevada	Maintenance
Salt Lake County	Utah	Nonattainment
Tooele County (part)	Utah	Nonattainment

To determine whether SO₂ emissions from facilities in Idaho could negatively impact any of these maintenance or nonattainment areas, the largest SO₂ emission sources were identified from our 2014 emissions inventory (Table 2). Since SO₂ will most likely either disperse in the atmosphere or chemically react to form a secondary pollutant within a few miles of the source, only large pollutant sources in proximity to the state boundary would be expected to significantly contribute to or interfere with air quality in adjacent states. Only one of the facilities shown in Table 2 (Clearwater Paper Corporation) is within 5 miles of the Idaho border. The Clearwater Paper Corporation's emissions are relatively small (~42 tons in 2014), and the facility is over 400 miles from Billings, Montana, and hundreds of miles from the older nonattainment/maintenance areas listed in Table 1.

Table 2 Top 10 SO₂ emitters in Idaho (2014 data).

Facility ID	Facility Name	Pollutant	Emissions (tons)
02700010	Amalgamated Sugar (Tasco—Nampa)	SO ₂	1,585.9
08300001	Amalgamated Sugar (Tasco—Twin Falls)	SO ₂	1,081.9
07700006	JR Simplot Company—Don Siding	SO ₂	794.9
02900001	P4 Production LLC (TV Facility)	SO ₂	580.5
02900003	Nu-West Industries, Inc. (Agrium Conda Phosphate Operations)	SO ₂	332.4
06700001	Amalgamated Sugar (Tasco—Paul)	SO ₂	248.3
01900025	Busch Ag Resources Inc.—Malt Plant	SO ₂	42.6
06900001	Clearwater Paper Corporation—PPD & CPD	SO ₂	42.2
02700009	JR Simplot Company Food Group—Caldwell	SO ₂	26.8

Idaho's SO₂ monitoring network can also be used to characterize the SO₂ emissions of three of the four largest SO₂ emitters listed in Table 2 and shown in Figure 2.

**Figure 2. Top five SO₂ point sources and current SO₂ monitors in Idaho.**

In eastern Idaho (Pocatello and Soda Springs), source-oriented monitors report the highest ambient SO₂ concentrations surrounding these facilities. The Meridian monitor is more of a background monitor but should reflect any significant emissions from the largest SO₂ emitter in Idaho (TASCO in Nampa). **Note:** TASCO's Nampa facility is in the process of converting a coal boiler to natural gas, which should result in a significant decrease in SO₂ emissions from this facility. As shown in Table 3, all of the Idaho monitors have 2014 3-year design values that are below the 75-ppb SO₂ NAAQS.

Table 3. Design values for Idaho SO₂ monitors, 2014.

Site	County/AIRS ID	99th Percentile—Highest Daily Maximum 1-Hour Average (ppb)			3-Year Design Value (ppb)
		2012	2013	2014	
Pocatello STP	Bannock	73	40	38	51
Soda Springs	Caribou	35	31	23	30
Meridian St. Luke's	Ada	6	11	5	7

As further evidence that Idaho's SO₂ emissions do not impact neighboring states, Figure 3 shows the estimated 2009–2011 1-hour SO₂ modeled design value background concentrations for the state. This map was generated by Washington State University researchers using the AIRPACT3 model (http://lar.wsu.edu/nw-airquest/lookup_faq.html). The design values are well below the NAAQS value of 75 ppb, and areas of increased SO₂ concentrations are localized in nature.

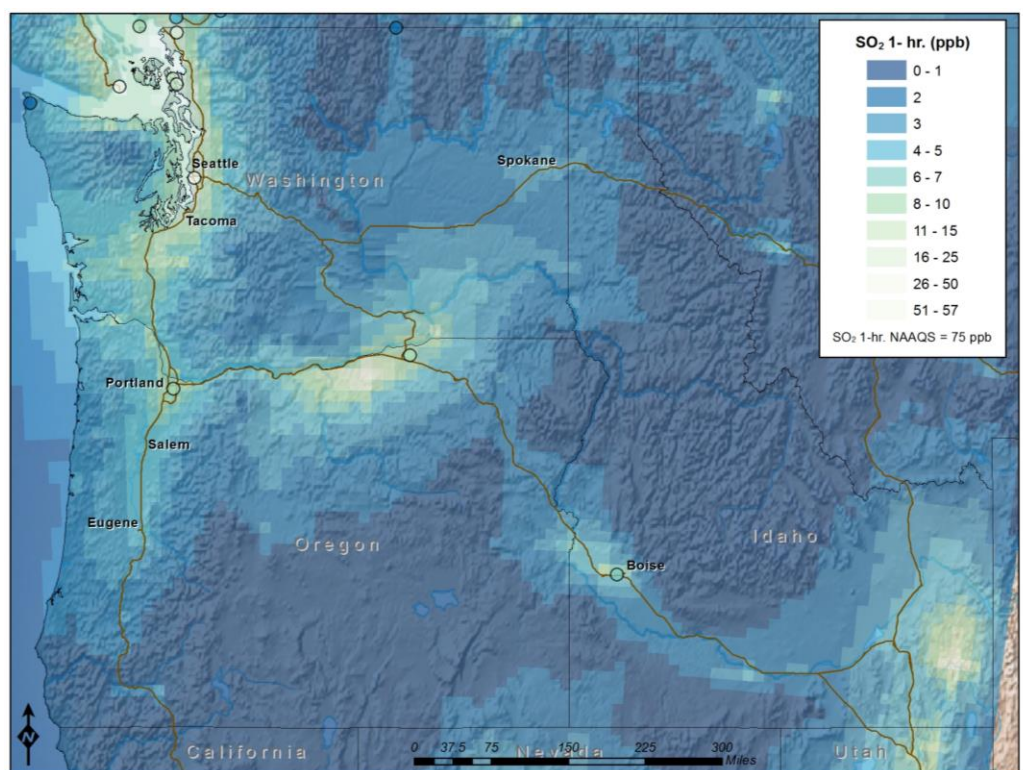


Figure 3. Modeled background SO₂ background concentrations for Idaho.

The Idaho Department of Environmental Quality reviewed EPA’s Clean Air Status and Trends Network (CASTNET) monitoring data (<http://epa.gov/castnet/javaweb/index.html>). CASTNET is a national air quality monitoring network designed to provide data to assess trends in air quality, atmospheric deposition, and ecological effects due to changes in air pollutant emissions. CASTNET provides long-term air quality monitoring in rural areas to determine trends in regional atmospheric nitrogen, sulfur, and ozone concentrations and deposition fluxes of sulfur and nitrogen pollutants to evaluate the effectiveness of national and regional air pollution control programs. The SO₂ data for the western United States show low background SO₂ levels throughout the year. Both average weekly and seasonal SO₂ concentrations were low (<6 ppb) indicating that the regional SO₂ background concentrations are relatively low, which in turn implies that the bulk of the SO₂ in urban receptor areas is locally generated and not a regional or transport problem.

Finally, as listed in EPA’s 2013 SO₂ Design Values report (<http://www.epa.gov/airtrends/values.html>), the valid 3-year design values for SO₂ for 2011–2013 indicate that except for Yellowstone County, Montana (area declared nonattainment), no other areas in the surrounding states have significant SO₂ issues (Table 4).

Table 4. Design values for Idaho and surrounding states, 2011–2013.

State	County	Valid 3-Year Design Value
Idaho	Caribou	40
Montana	Richland	4
Montana	Yellowstone	64
Nevada	Clark	8
Nevada	Washoe	6
Oregon	Multnomah	6
Utah	Davis	9
Utah	Salt Lake	21
Utah	Salt Lake	20
Utah	Salt Lake	7
Washington	Clallam	1
Wyoming	Campbell	38
Wyoming	Laramie	6
Wyoming	Sweetwater	18
Wyoming	Weston	12

Conclusion—Based on the analysis of monitoring and modeling data provided above, Idaho’s SO₂ emissions do not result in the following:

1. Contribute significantly to nonattainment of the applicable NAAQS in any other state.
2. Interfere with maintenance of the applicable NAAQS in any other state.